

## PREFACE

This monograph, derived from contributions to the International Conference on Radiation and Health held in Beer Sheva, Israel, 7–11 November 1996, differs in several important ways from other reports. The conference was conceived as a forum for the discussion of experimental and observational data concerning various aspects of human health as affected by different kinds of radiation.

Although studies of the health impact of the Chernobyl accident were featured prominently by scientists from a number of countries, the intention was to put this experience into the context of the persisting problems of radiation and health.

Of special interest is the set of contributions oriented to understanding the social and psychological impact of unexpected exposures and in particular the observation of post traumatic stress disorder among those affected by Chernobyl.

A group of papers concerning exposure to nonionizing radiation suggests that some of the effects associated with ionizing radiation may also occur with nonionizing radiation.

Particularly valuable contributions to biological indicators are presented, together with the documentation of persistent effects in the blood and serum of persons exposed to radiation, as evidenced by chromosomal changes, evidence of glycophorin A mutation, and what have been called clastogenic factors. The latter factors are believed to reflect oxygen toxicity.

Radiation can produce health effects in addition to cancer, which has been well documented in the recent report on A-bomb health effects by Shigematsu and his colleagues and is illustrated by reports here on other body systems. At the same time, by presenting data on other types of exposure the contributors broaden the types of exposure relevant to better understanding of radiation effects on health.

The problem of radiation exposure and how people perceive it is evident. Never has this dichotomy between the knowledge of radiation health reactions and the perception of these reactions been illustrated more forcefully than the public and official responses

consequent to the Chernobyl disaster. Millions of people and vast areas of Eastern Europe were exposed to various levels of radiation from emitted radioisotopes. Public reactions and rumor led to unsubstantiated and exaggerated reports that have not been borne out in the light of sober investigation. Reliable facts, however, are hard to come by. We believe that this monograph helps meet this need.

This monograph represents the general themes of the conference but contains only part of its total fabric. In terms of the number of abstract submissions, colleagues in Eastern Europe and countries of the former Soviet Union were major potential contributors but of these only a few were able to participate in the conference. We express our deep appreciation to the International Atomic Energy Agency for making such participation possible. We are also most grateful to our hosts, the Ben-Gurion University of the Negev and the Soroka Medical Center, and also to the World Health Organization, the International Association for Radiation Research, the U.S. Department of Energy, the Israel Atomic Energy Commission, Elscint Ltd., the Israel Cancer Society, the Soreq Nuclear Research Center, and the Committee for Research and Prevention in Occupational Safety and Health of the Israel Ministry of Labor and Social Affairs.

We would like to thank, in particular, Prof. E. Riklis for his invaluable assistance and contribution to the conference program. We also thank M. Green for her extraordinary diligence and help as administrative secretary of the conference. The editors of this monograph and the organizers of the conference feel that the data and insights of the contributors will have a lasting influence on the direction of research and evaluation of radiation and health in the future. To these contributors and the supporters and sponsors of the meeting, we express not only our gratitude but the gratitude to those who stand to benefit from these contributions in the future.

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